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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,507	05/25/2005	Harald Baumann	89930 (58575-315071)	6575

43550 7590 07/17/2007

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EXAMINER
EOFF, ANCA

ART UNIT	PAPER NUMBER
1753	

MAIL DATE	DELIVERY MODE
07/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,507	BAUMANN ET AL.	
	Examiner	Art Unit	
	Anca Eoff	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/25/2005, 10/03/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/03/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Status

1. Claims 1-14 are canceled. Claims 15- 27 are pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 15-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murota (US Pg-Pub 2003/0162130) in view of Kazama et al. (EP 0 738 928 B1) and in further view of Faust (US Patent 4,019,972).

With regard to claims 15, Murota discloses a photosensitive lithographic printing plate, wherein the lithographic printing plate comprises:

- a photosensitive layer, equivalent to the radiation-sensitive coating of the instant application, said photosensitive layer having as main components a photopolymerization initiation system and a compound having an addition-polymerizable ethylenically unsaturated double bond (par.0038-0042), and

- a support, preferably an aluminum support (par.0117).

The aluminum support is properly subjected to substrate surface treatment, said treatment comprising a step of forming surface roughness, by an electrochemical process involving chemical graining in a hydrochloric acid solution (par.0119-0120). The

aluminum support is then subjected to anodization (par.0125) and to surface hydrophilization (par. 0132).

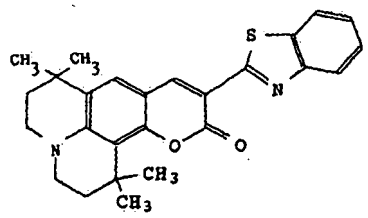
The photopolymerization initiation system in the photosensitive layer of Murota comprises a sensitizing dye (par.0046-0047), such as a coumarine dye, and a photopolymerization initiator, such as hexaryl biimidazoles or any other phopolymerization initiator known in the art (par.0084-0085)

However, Murota fails to disclose that the photosensitive layer comprises all the components of the radiation-sensitive layer as required by the instant application.

Kazama et al. disclose a visible-ray polymerizable composition comprising:

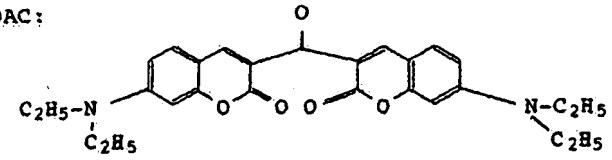
- a coumarin dye (par.0010), such as the compounds represented by the following formulas:

TBTC:



and

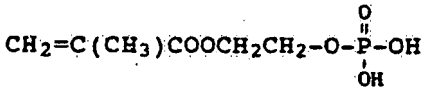
CDAC:



(compounds TBTC and CDAC on page 16). These compounds meet the limitations for the sensitizer represented by formula (I), being identical to the compounds (Ih) on page 12 and (Ij) on page 13 of the specification of the instant application.

- at least one photoacid generator, such as a diphenyliodonium salt compound (par.0010);

- a polymerizable monomer (par.0011), such as



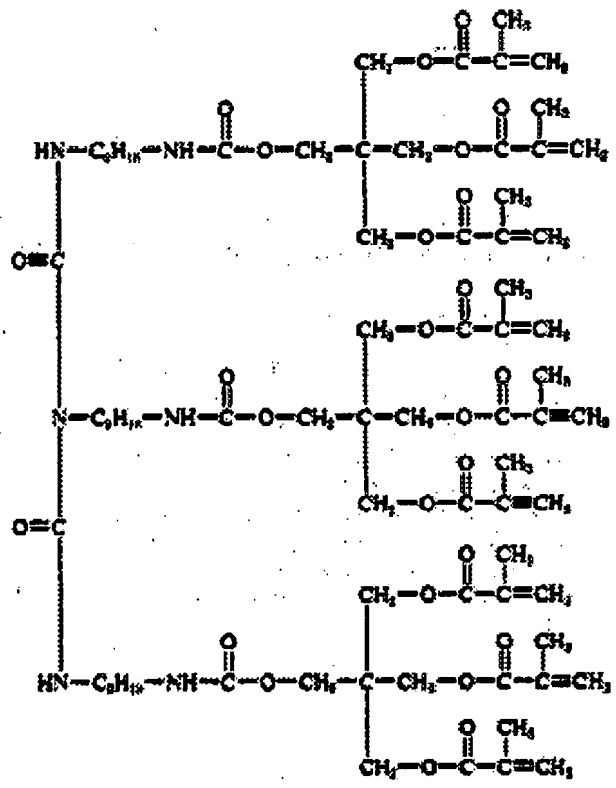
(page 11). This component is equivalent to the free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group.

- an organic solvent (par.0082).

However, Kazama et al. fail to disclose that the polymerizable composition comprises a biuret oligomer as required by the instant application.

Faust discloses a photopolymerizable composition comprising at least one binder, one photoinitiator and at least one polymerizable acid amide group-containing acid derivative or alkyl acrylic acid derivative that contains two polymerizable groups in the molecule (abstract).

Faust specifically discloses a polymerizable monomer having the formula :



(component (MVII) in columns 17-18), which is equivalent to the biuret oligomer represented by the formula (V) of the instant application, where Z_1, Z_2 and Z_3 are C_9H_{18} groups, B_1, B_2 and B_3 are independently groups represented by the formula (Va), where p=0, q=1, r=1, s-1 and R_{14} is a $-O-\overset{O}{\overset{\|}{C}}-\overset{R^{15}}{\overset{|}{C}}=CH_2$ group with R_{15} is a $-CH_3$ group.

Due to the highly viscous photopolymerizable monomers having biuret groups contained therein, the composition yields layers which are distinguished by their non-volatility, resistance to handling and flexibility. The flexibility of the layers after exposure is not associated with excessive softness and cold-flow of the unexposed layer (column 5, lines 23-32).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include the polymerizable monomers with biuret groups of Faust in the polymerizable composition of Kazama et al., in order to obtain compositions which are distinguished by their non-volatility, resistance to handling and flexibility (Faust, column 5, lines 23-32).

Modified Kazama teaches a polymerizable composition equivalent to the radiation-sensitive coating of the instant application. The polymerizable composition of modified Kazama has sensitivity for visible-rays and exhibits excellent adhesiveness (par.0007)

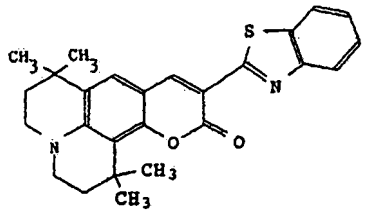
Therefore, it would have been obvious for one of ordinary skill in the art to use the polymerizable composition of modified Kazama as a photosensitive layer in the lithographic printing plate disclosed by Muroda in order to benefit of the sensitivity for

visible-rays and the excellent adhesiveness property of the polymerizable composition (Kazama et al., par.0007).

With regard to claim 16, Kazama et al. further disclose that the visible-ray polymerizable composition further comprises other polymerizable monomers than the ones having the phosphoric acid group, such as fumaric ester compounds, styrene and a-methyl styrene derivatives, allyl compounds (par.0070). The composition also comprises fillers such calcium hydroxide, strontium hydroxide, zinc oxide, silicate glass and fluoroalumino-silicate glass (par.0077).

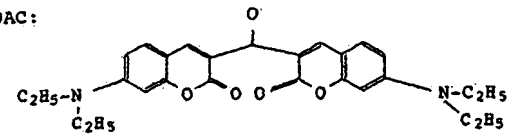
With regard to claim 17, Kazama et al. specifically disclose the coumarin dyes used in the polymerizable composition, such as:

TBTC:



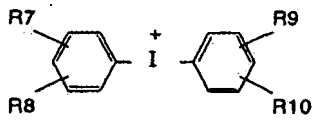
and

CDAC:



(compounds TBTC and CDAC on page 16).

With regard to claim 18, Kazama et al. disclose that the photoacid generator is a diphenyliodonium salt with the formula:

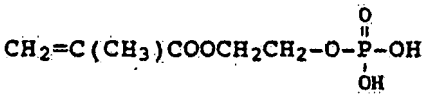


(compound of formula(3) in par.0030), where R_7, R_8, R_9, R_{10} are each independently a hydrogen atom, a halogen atom, an alkyl group, an aryl group, an aralkyl group, an

alkenyl group and an alkoxy group amd M⁻ is a hydrohalogenic acid ion pr a Lewis acid ion (par.0030). Kazama et al. specifically disclose chloride, bromide, tetrafluoroborate, hexafluorophosphate, hexafluoroarsenate, hexafluroantimonate and trifluoromethane sulfonate of diphenyl iodonium, ditolyliodonium, bis(tert-butylphenyl)iodonium, bis(m-nitrophenyl)iodonium (par.0033).

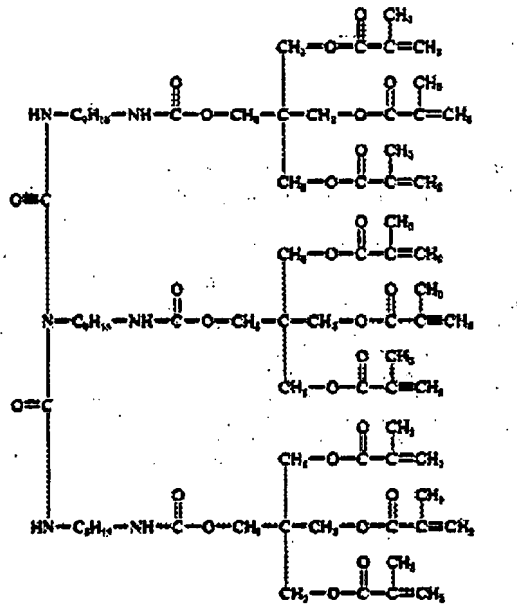
With regard to claim 19, Murota discloses that titanocenes (metalocenes with Ti, a metal of the fouth subgroup) can be used to increase the sensitivity of the coumarine-type sensitizer dyes (par.0081).

With regard to claim 20, Kazama et al. disclose that the polymerizable monomer is represented by the formula:



(par.0066), which is equivalent to the free-radical polymerizable monomer with at least one ethylenically unsaturated group and at least one P-OH group represented by the formula (II), where R is a $-CH_3$ group, X is a $-C_2H_4-$ group, m=0, n=1, k=2.

With regard to claim 21, Faust et al. disclose the compound



(component (MVII) in columns 17-18), which is equivalent to the biuret oligomer represented by the formula (V) of the instant application, where Z_1, Z_2 and Z_3 are C_9H_{18} groups, B_1, B_2 and B_3 are independently groups represented by the formula (Va), where p=0, q=1, r=1, s-1 and R_{14} is a $-O-\overset{O}{\overset{\|}{C}}-\overset{R^{15}}{\overset{|}{C}}=CH_2$ group with R_{15} is a $-CH_3$ group.

With regard to claim 22, Murota discloses an oxygen-impermeable protective layer provided on the photopolymerizable photosensitive layer (par.0135).

With regard to claim 23, Murota further discloses a method of making a lithographic printing plate comprising the following steps:

- forming a photosensitive layer on the support (par.0134);

- exposing the photosensitive printing plate to light (par.0146);

- developing to form an image (par.0158), said developing step being performed with an alkaline solution (par.0023, par.0206).

The plate-making process may involve heating on the entire surface of the lithographic printing plate before exposure, during exposure or between exposure and development as necessary. For the purpose of enhancing image intensity and press life, it is also effective to subject the image thus developed to entire post heating or entire exposure (par.0145).

With regard to claim 26, Murota further discloses a method of forming a photosensitive layer of the lithographic printing plate comprising the following steps:

- subjecting the aluminum support to substrate surface treatment, said treatment comprising a step of forming surface roughness, by an electrochemical process involving chemical graining in a hydrochloric acid solution (par.0119-0120). The aluminum support is then subjected to anodization (par.0125) and to surface hydrophilization (par. 0132);

- applying the photopolymerizable composition on the supports and drying to form a photosensitive layer thereon (par.0228);

- applying an aqueous solution of polyvinyl alcohol and dry to obtain a photosensitive lithographic printing plate (par.0229), wherein the polyvinyl alcohol solution forms an oxygen-impermeable protective layer (par. 0135-0136).

Claim 27 is a product-by-process claim.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

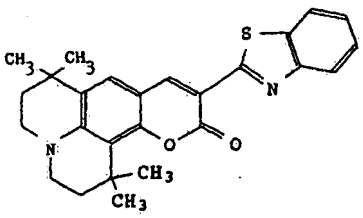
The printing form of claim 27 is not different than the printing plate disclosed by Murota in par.0144-0158.

4. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazama et al. (EP 0 738 928 B1) in view of Faust (US Patent 4,019,972).

Kazama et al. disclose a visible-ray polymerizable composition comprising:

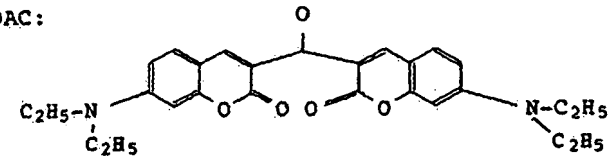
- a coumarin dye (par.0010), such as the compounds represented by the following formulas:

TBTC:



and

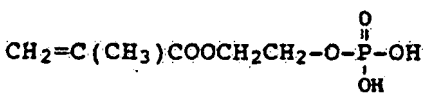
CDAC:



(compounds TBTC and CDAC on page 16). These compounds meet the limitations for the sensitizer represented by formula (I), being identical to the compounds (Ih) on page 12 and (Ij) on page 13 of the instant application.

- at least one photoacid generator, such as a diphenyliodonium salt compound (par.0010);

- a polymerizable monomer (par.0011), such as



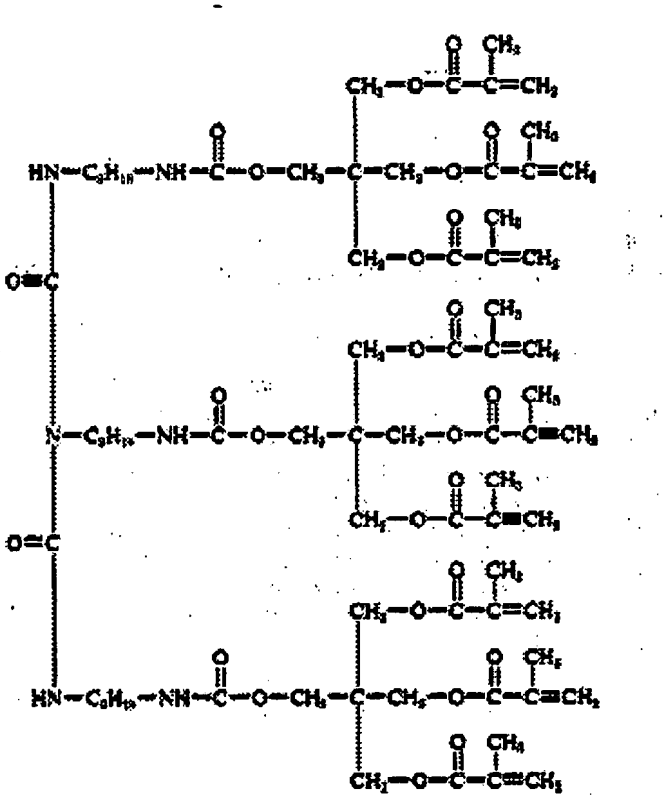
(page 11). This component is equivalent to the free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group.

- an organic solvent (par.0082).

However, Kazama et al. fail to disclose that the polymerizable composition comprises a biuret oligomer as required by the instant application.

Faust discloses a photopolymerizable composition comprising at least one binder, one photoinitiator and at least one polymerizable acid amide group-containing acid derivative or alkyl acrylic acid derivative that contains two polymerizable groups in the molecule (abstract)

Faust specifically discloses a polymerizable monomer having the formula :



(component (MVII) in columns 17-18), which is equivalent to the biuret oligomer represented by the formula (V) of the instant application, where Z_1, Z_2 and Z_3 are C_9H_{18} groups, B_1, B_2 and B_3 are independently groups represented by the formula (Va), where p=0, q=1, r=1, s-1 and R_{14} is a $-O-\overset{O}{\overset{\|}{C}}-\overset{R^{15}}{\overset{|}{C}}=CH_2$ group with R_{15} is a $-CH_3$ group.

Due to the highly viscous photopolymerizable monomers having biuret groups contained therein, the composition yields layers which are distinguished by their non-volatility, resistance to handling and flexibility. The flexibility of the layers after exposure is not associated with excessive softness and cold-flow of the unexposed layer (column 5, lines 23-32).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include the polymerizable monomers with biuret groups of Faust in the polymerizable composition of Kazama et al., in order to obtain compositions which are distinguished by their non-volatility, resistance to handling and flexibility (Faust, column 5, lines 23-32).

With regard to claim 25, Kazama et al. further disclose that the visible-ray polymerizable composition further comprises other polymerizable monomers than the ones having the phosphoric acid group, such as fumaric ester compounds, styrene and a-methyl styrene derivatives, allyl compounds (par.0070). The composition also comprises fillers such calcium hydroxide, strontium hydroxide, zinc oxide, silicate glass and fluoroalumino-silicate glass (par.0077).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anca Eoff whose telephone number is 571-272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AE /AE/

/Cynthia H. Kelly/